

**Continental Disc
Corporation**

Performance Under Pressure®

ASME Combination Capacity Factors

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The following Continental Disc Corporation rupture disc and pressure relief valve combination capacity factors were determined by testing the rupture disc device mounted directly beneath the valve inlet in accordance with ASME Pressure Vessel Code, Section VIII,

Division I, and certified by The National Board of Boiler and Pressure Vessel Inspectors. The information provided is to be used as a multiplier to make appropriate changes in the ASME rated relieving capacity of the pressure relief valve. It is applicable only to the

combination of pressure relief valve and rupture disc designs tested.

ASME allows the use of a 0.9 multiplier for those combinations not tested. Capacity factors are not applied to rupture discs installed at the outlet of a pressure relief valve.



C.D.C. maintains an ASME accepted flow lab for conducting flow tests of rupture discs, pressure relief valves, and rupture disc / pressure relief valve combinations. Refer to bulletin 1-1106 for additional details regarding our flow test laboratory.

How to Use the Combination Capacity Factor

To determine the combination capacity of the listed rupture disc/pressure relief valve combinations, the ASME rated capacity of the pressure relief valve is multiplied by the capacity factor for the combination. The factors listed may be used for sizes equal to or larger and pressures equal to or greater than the rupture disc/pressure relief valve combinations tested (except where limited range is indicated).

EXAMPLE: 6" Crosby Model JOS-156R8 pressure relief valve with a set pressure of 80 psig and a published relieving capacity of 29248 SCFM air.

Assume that a rupture disc is required to isolate the inlet side of the valve and a Continental ULTRX® Rupture Disc of Hastelloy®* material has been selected.

To determine the calculated capacity of the rupture disc/pressure relief valve combination:

1. Refer to the ULTRX Rupture Discs tested.
2. Select the largest size less than or equal to the 6" size. Use the 3" size for this example.

3. Select the desired rupture disc material and pressure range from the chart. For this example, use Hastelloy for 60 psig plus.
4. From the chart, find the factor in column "Crosby JOS/JBS."

The ASME rated relieving capacity of the Crosby type JOS valve and ULTRX Rupture Disc combination is:
 $29248 \times 0.987 = 28868$ SCFM

* Hastelloy is a registered trademark of Haynes International.

Rupture Disc / Relief Valve Combination Capacity Factors

Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonergan D & DB
ULTRX Rupture Disc with ULTRX holder or MINTRX® Rupture Disc with MINTRX® holder or STAR X® Rupture Disc with STAR X holder	1.0	Stainless Steel	60 PLUS	—	—	0.980	—	0.989	—	—
	1.0	Hastelloy	60 PLUS	—	—	0.987	—	0.992	—	—
	1.0	Inconel®*	60 PLUS	0.997	—	0.984	—	0.994	—	—
	1.0	Monel®**	60 PLUS	0.999	—	0.980	—	0.993	—	—
	1.0	Nickel	60 PLUS	1.000	—	0.981	—	0.982	—	—
	1.0	Nickel/Teflon®** Liner	60 PLUS	—	—	—	—	—	—	0.984
	1.5	Stainless Steel	30-59	0.989	0.978	0.984	0.993	0.991	—	—
	1.5	Stainless Steel	60 PLUS	0.989	0.978	0.980	0.993	0.989	—	—
	1.5	Stainless Steel/Teflon Liner	30 PLUS	—	0.967	—	—	—	—	—
	1.5	Hastelloy	30-59	—	0.970	0.986	1.000	0.987	—	—
	1.5	Hastelloy	60 PLUS	—	0.970	0.987	1.000	0.992	—	—
	1.5	Inconel	30-59	—	0.973	0.989	0.991	0.988	—	—
	1.5	Inconel	60 PLUS	0.997	0.973	0.984	0.991	0.994	—	—
	1.5	Monel	30-59	—	0.976	0.987	0.994	0.989	—	—
	1.5	Monel	60 PLUS	0.999	0.976	0.980	0.994	0.993	—	—
	1.5	Nickel	30-59	—	0.977	0.981	1.000	0.986	—	—
	1.5	Nickel	60 PLUS	1.000	0.977	0.981	1.000	0.982	—	—
	1.5	Nickel/Teflon Liner	30 PLUS	—	0.951	—	—	—	—	—
	1.5	Nickel/Teflon Liner	60 PLUS	—	—	—	—	—	—	0.984
	1.5	Tantalum	30 PLUS	—	—	0.978	—	—	—	—
	3.0	Stainless Steel	15-29	0.978	0.970	0.985	—	0.998	—	—
	3.0	Stainless Steel	30-59	0.978	0.978	0.984	0.993	0.991	—	—
	3.0	Stainless Steel	60 PLUS	0.978	0.978	0.980	0.993	0.989	—	—
	3.0	Stainless Steel/Teflon Liner	15-29	—	0.954	—	—	—	—	—
	3.0	Stainless Steel/Teflon Liner	30 PLUS	—	0.967	—	—	—	—	—
	3.0	Hastelloy	15-29	—	0.984	0.992	—	1.000	—	—
	3.0	Hastelloy	30-59	—	0.970	0.986	1.000	0.987	—	—
	3.0	Hastelloy	60 PLUS	—	0.970	0.987	1.000	0.992	—	—
	3.0	Inconel	15-29	0.995	0.980	0.991	—	0.999	—	—
	3.0	Inconel	30-59	0.995	0.973	0.989	0.991	0.988	—	—
	3.0	Inconel	60 PLUS	0.997	0.973	0.984	0.991	0.994	—	—
	3.0	Monel	15-29	0.989	0.975	0.987	—	1.000	—	—
	3.0	Monel	35-59	0.989	0.976	0.987	0.994	0.989	—	—
3.0	Monel	60 PLUS	0.999	0.976	0.980	0.994	0.993	—	—	
3.0	Nickel	15-29	0.984	0.982	0.981	—	0.997	—	—	
3.0	Nickel	30-59	0.984	0.977	0.981	1.000	0.986	—	—	
3.0	Nickel	60 PLUS	1.000	0.977	0.981	1.000	0.982	—	—	
3.0	Nickel/Teflon Liner	15-29	—	0.956	—	—	—	—	—	
3.0	Nickel/Teflon Liner	30 PLUS	—	0.951	—	—	—	—	—	
3.0	Nickel/Teflon Liner	60 PLUS	—	—	—	—	—	—	0.984	

*Inconel and Monel are trademarks of the Inco family of companies.

**Teflon is a registered trademark of E.I. du Pont de Nemours and Company used under license.

Rupture Disc / Relief Valve Combination Capacity Factors

Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonergan D & DB
ZAP Rupture Disc with ZAP Holder	1.0	Stainless Steel	60-74	—	—	0.985	—	—	—	—
	1.0	Stainless Steel	75 PLUS	—	—	0.985	0.987	0.980	—	—
	1.0	Inconel/Teflon	60 PLUS	0.985	—	—	—	—	—	—
	1.0	Inconel	60 PLUS	0.987	—	0.988	—	0.989	—	—
	1.0	Monel/Teflon Liner	60 PLUS	0.982	—	—	—	—	—	—
	1.0	Monel	60-74	0.982	—	0.985	—	—	—	—
	1.0	Monel	75 PLUS	0.982	—	0.985	0.990	0.986	—	—
	1.0	Nickel/Teflon Liner	60 PLUS	0.986	—	—	—	—	—	—
	1.0	Nickel	50-59	0.989	0.984	—	—	—	0.988	0.996
	1.0	Nickel	60 PLUS	0.985	0.984	0.992	—	0.994	0.988	0.996
	1.5	Stainless Steel	30-49	0.993	—	0.955	—	—	—	—
	1.5	Stainless Steel	50-59	0.993	—	0.955	0.976	0.981	—	—
	1.5	Stainless Steel	60-74	0.993	—	0.985	0.976	0.981	—	—
	1.5	Stainless Steel	75 PLUS	0.993	—	0.985	0.987	0.980	—	—
	1.5	Inconel/Teflon Liner	60 PLUS	0.985	—	—	—	—	—	—
	1.5	Inconel	30-59	0.985	—	—	—	—	—	—
	1.5	Inconel	60 PLUS	0.987	—	0.988	—	0.989	—	—
	1.5	Monel	30-49	0.981	—	0.955	—	—	—	—
	1.5	Monel	50-59	0.981	—	0.955	0.983	0.980	—	—
	1.5	Monel	60-74	0.982	—	0.985	0.983	0.980	—	—
	1.5	Monel	75 PLUS	0.982	—	0.985	0.990	0.986	—	—
	1.5	Nickel	30-49	—	—	0.965	—	0.975	—	—
	1.5	Nickel	50-59	0.989	0.984	0.965	—	0.975	0.988	0.996
	1.5	Nickel	60 PLUS	0.985	0.984	0.992	—	0.994	0.988	0.996
	3.0	Stainless Steel	15-29	0.963	0.966	—	—	—	—	—
	3.0	Stainless Steel	30-34	0.993	0.966	0.955	—	—	—	—
	3.0	Stainless Steel	35-49	0.993	0.966	0.970	—	—	—	—
	3.0	Stainless Steel	50-59	0.993	0.966	0.970	0.976	0.981	—	—
	3.0	Stainless Steel	60-74	0.993	0.966	0.985	0.976	0.981	—	—
	3.0	Stainless Steel	75 PLUS	0.993	0.966	0.985	0.987	0.980	—	—

Rupture Disc / Relief Valve Combination Capacity Factors



Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonergan D & DB
ZAP Rupture Disc with ZAP Holder	3.0	Inconel/Teflon Liner	60 PLUS	0.985	—	—	—	—	—	—
	3.0	Inconel	15-29	0.967	0.968	—	—	—	—	—
	3.0	Inconel	30-34	0.985	0.968	—	—	—	—	—
	3.0	Inconel	35-59	0.985	0.968	0.992	—	—	—	—
	3.0	Inconel	60 PLUS	0.987	0.968	0.988	—	0.989	—	—
	3.0	Monel/Teflon Liner	60 PLUS	0.982	—	—	—	—	—	—
	3.0	Monel	15-29	0.966	0.966	—	—	—	—	—
	3.0	Monel	30-34	0.981	0.966	0.956	—	—	—	—
	3.0	Monel	35-49	0.981	0.966	0.982	—	—	—	—
	3.0	Monel	50-59	0.981	0.966	0.982	0.983	0.980	—	—
	3.0	Monel	60-74	0.982	0.966	0.985	0.983	0.980	—	—
	3.0	Monel	75 PLUS	0.982	0.966	0.985	0.990	0.986	—	—
	3.0	Nickel/Teflon Liner	15-59	—	0.958	—	—	—	—	—
	3.0	Nickel/Teflon Liner	60 PLUS	0.986	0.958	—	—	—	—	—
	3.0	Nickel	15-59	0.964	0.967	—	—	—	—	—
	3.0	Nickel	30-34	0.964	0.967	0.965	—	0.975	—	—
	3.0	Nickel	35-49	0.985	0.984	1.000	—	0.975	0.992	—
	3.0	Nickel	50-59	0.989	0.984	1.000	—	0.975	0.992	0.996
3.0	Nickel	60 PLUS	0.985	0.984	0.992	—	0.994	0.992	0.996	
KBA Rupture Disc with KBA Holder	1.0	Monel	60 PLUS	—	—	—	0.984	—	—	—
MICROX® Rupture Disc with UNISERT® Holder	1.0	Monel	150 PLUS	—	—	0.984	—	—	—	—
	1.0	Nickel	150 PLUS	—	—	0.990	—	—	—	—
	2.0	Stainless Steel	80 PLUS	—	—	0.991	—	—	—	—
	2.0	Inconel	80 PLUS	—	—	0.997	—	—	—	—
	2.0	Monel	80-149	—	—	0.988	—	—	—	—
	2.0	Monel	150 PLUS	—	—	0.984	—	—	—	—
	2.0	Nickel	80-149	—	—	0.992	—	—	—	—
	2.0	Nickel	150 PLUS	—	—	0.990	—	—	—	—

Rupture Disc / Relief Valve Combination Capacity Factors

Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material: Top Section/ Seal		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonergan D & DB
CDC Light Lip Rupture Disc with 30° seat light lip holder	1.0	Inconel/Teflon	60 PLUS	0.974	—	—	—	—	—	—
	1.0	Monel/Teflon	60 PLUS	0.976	—	0.971	—	—	—	—
	1.5	Stainless Steel/Teflon	30 PLUS	0.966	0.973	—	—	—	—	—
	1.5	Inconel/Teflon	30-59	0.970	0.963	—	—	—	—	—
	1.5	Inconel/Teflon	60 PLUS	0.974	0.963	—	—	—	—	—
	1.5	Monel/Teflon	30-59	0.968	0.970	—	—	—	—	—
	1.5	Monel/Teflon	60 PLUS	0.976	0.970	0.971	—	—	—	—
	1.5	Nickel/Teflon	30 PLUS	0.976	0.971	—	—	—	—	—
	3.0	Stainless Steel/Teflon	15-29	—	0.977	—	—	—	—	—
	3.0	Stainless Steel/Teflon	30 PLUS	0.966	0.973	—	—	—	—	—
	3.0	Inconel/Teflon	15-29	—	0.973	—	—	—	—	—
	3.0	Inconel/Teflon	30-59	0.970	0.963	—	—	—	—	—
	3.0	Inconel/Teflon	60 PLUS	0.974	0.963	—	—	—	—	—
	3.0	Monel/Teflon	15-29	—	0.985	—	—	—	—	—
	3.0	Monel/Teflon	30-59	0.968	0.970	—	—	—	—	—
	3.0	Monel/Teflon	60 PLUS	0.976	0.970	0.971	—	—	—	—
	3.0	Nickel/Teflon	15-29	—	0.980	—	—	—	—	—
	3.0	Nickel/Teflon	30 PLUS	0.976	0.971	—	—	—	—	—

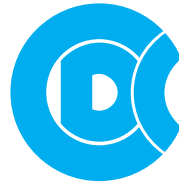
Rupture Disc / Relief Valve Combination Capacity Factors

Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material: Top Section/Seal/ Vacuum Support		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonergan D & DB
CDCV Light Lip Rupture Disc with 30° seat light lip holder	1.0	Stainless Steel/Teflon/Stainless Steel	60 PLUS	—	—	0.978	—	—	—	—
	1.0	Hastelloy/Teflon/Hastelloy	60 PLUS	—	—	0.960	—	—	—	—
	1.0	Inconel/Teflon/Inconel	60 PLUS	0.969	—	—	—	—	—	—
	1.0	Monel/Teflon/Monel	60 PLUS	0.969	—	0.961	—	—	—	—
	1.0	Nickel/Teflon/Nickel	60 PLUS	0.976	—	—	—	—	—	—
	1.5	Stainless Steel/Teflon/Stainless Steel	30-59	—	—	0.959	—	—	—	—
	1.5	Hastelloy/Teflon/Hastelloy	60 PLUS	—	—	0.960	—	—	—	—
	1.5	Inconel/Teflon/Inconel	60 PLUS	0.969	—	—	—	—	—	—
	1.5	Monel/Teflon/Monel	30-59	—	—	0.958	—	—	—	—
	1.5	Nickel/Teflon/Nickel	30-59	—	—	0.953	—	—	—	—
	3.0	Stainless Steel/Teflon/Stainless Steel	15-29	0.965	0.950	0.953	—	—	—	—
	3.0	Stainless Steel/Teflon/Stainless Steel	30-34	0.965	0.950	0.959	—	—	—	—
	3.0	Stainless Steel/Teflon/Stainless Steel	35-59	0.965	0.950	0.978	—	—	—	—
	3.0	Stainless Steel/Teflon/Stainless Steel	60 PLUS	0.965	0.950	0.978	—	—	—	—
	3.0	Hastelloy/Teflon/Hastelloy	60 PLUS	—	—	0.960	—	—	—	—
	3.0	Inconel/Teflon/Inconel	15-59	0.976	0.953	—	—	—	—	—
	3.0	Inconel/Teflon/Inconel	60 PLUS	0.969	0.953	—	—	—	—	—
	3.0	Monel/Teflon/Monel	15-29	0.973	0.956	0.979	—	—	—	—
	3.0	Monel/Teflon/Monel	30-34	0.973	0.956	0.958	—	—	—	—
	3.0	Monel/Teflon/Monel	35-59	0.973	0.956	0.994	—	—	—	—
3.0	Monel/Teflon/Monel	60 PLUS	0.969	0.956	0.961	—	—	—	—	
3.0	Nickel/Teflon/Nickel	15-29	0.992	0.950	—	—	—	—	0.966	
3.0	Nickel/Teflon/Nickel	30-59	0.992	0.950	0.953	—	—	—	0.966	
3.0	Nickel/Teflon/Nickel	60 PLUS	0.976	0.950	0.953	—	—	—	0.966	

Rupture Disc/Relief Valve Combination Capacity Factors

Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material: Top Section/Seal		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonerган D & DB
CDC Flat Seat Rupture Disc with UNISERT Holder	3.0	Monel/Teflon	15 PLUS	—	—	0.986	—	—	—	—

Rupture Disc			Set Pressure psig	Pressure Relief Valve Model						
Type	Size	Material: Top Section/Seal/ Vacuum Support		Teledyne Farris 2600 & 4500	Dresser 1900 1900-30 1900-35	Crosby JOS/JBS	Crosby JB	Crosby JO	Kunkle 5000 thru 5999	Lonerган D & DB
CDCV Flat Seat Rupture Disc with UNISERT Holder	1.0	Stainless Steel/Teflon/Stainless Steel	60 PLUS	--	--	0.985	--	--	--	--
	1.0	Hastelloy/Teflon/Hastelloy	60 PLUS	--	--	0.983	--	--	--	--
	1.5	Stainless Steel/Teflon/Stainless Steel	30-59	--	--	0.976	--	--	--	--
	1.5	Stainless Steel/Teflon/Stainless Steel	60 PLUS	--	--	0.985	--	--	--	--
	1.5	Hastelloy/Teflon/Hastelloy	30-59	--	--	0.973	--	--	--	--
	1.5	Hastelloy/Teflon/Hastelloy	60 PLUS	--	--	0.983	--	--	--	--
	3.0	Stainless Steel/Teflon/Stainless Steel	15-29	--	--	0.982	--	--	--	--
	3.0	Stainless Steel/Teflon/Stainless Steel	30-59	--	--	0.976	--	--	--	--
	3.0	Stainless Steel/Teflon/Stainless Steel	60 PLUS	--	--	0.985	--	--	--	--
	3.0	Hastelloy/Teflon/Hastelloy	15-29	--	--	0.981	--	--	--	--
	3.0	Hastelloy/Teflon/Hastelloy	30-59	--	--	0.973	--	--	--	--
	3.0	Hastelloy/Teflon/Hastelloy	60 PLUS	--	--	0.983	--	--	--	--



**Continental Disc[®]
Corporation**

Performance Under Pressure[®]



ASME Code Symbol Stamp
Available When Specified



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Available When Specified



Pressure Equipment Directive
Available When Specified

Continental Disc Corporation has representatives located throughout the world.
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